

SECTION 15810

FANS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Extent of fans and accessories work is indicated by drawings and schedules and by requirements of this section.
- B. Types of fans and accessories required for this Project include the following:
 - 1. Fans
 - a. Recirculation Fan
- C. Refer to other Division 15 Sections for HVAC ductwork connected to fan controls not factory-installed, and testing, adjusting and balancing.
- D. Refer to Division 16 Sections for the following work:
 - 1. Fans: Power supply wiring from power source to power plug outlet near unit. Include required electrical devices, except where specified as furnished or factory-installed by manufacturer.
- E. Provide the following electrical work as work of this section, complying with requirements of Division 16 Sections:
 - 1. Fans: Control and interlock wiring between operating controls, indicating devices, and unit temperature control panels.

1.2 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of fans of types and capacities required, whose products have been in satisfactory use in similar service for not less than five (5) years.
- B. Codes and Standards:
 - 1. AMCA Compliance: Test and rate fans in accordance with AMCA Standards. Fans shall bear AMCA 300 certified rating seal.
 - 2. UL and NEMA Compliance: Provide electrical components required as part of fans which have been listed and labeled by UL and comply with NEMA Standards.
 - 3. NEC Compliance: Comply with National Electrical Code (NFPA 70) as applicable to installation and electrical connections of ancillary electrical components of fans.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data, including rated capacities of selected model clearly indicated, weights, furnished specialties and accessories; and installation and start-up instructions.
- B. Shop Drawings: Submit manufacturer's assembly-type shop drawings indicating dimensions, weight loadings, required clearances, and methods of assembly of components.
- C. Maintenance Data: Submit maintenance data and parts list for each fan, control, and accessory; including "trouble-shooting" maintenance guide. Include this data and product data in maintenance manual; in accordance with requirements of Division 15 Section 15000.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Handle fans and components carefully to prevent damage, breaking, denting and scoring. Do not install damaged units or components; replace with new.
- B. Store fans and components in clean, dry place. Protect from weather, dirt, fumes, water, construction debris and physical damage.
- C. Comply with Manufacturer's rigging and installation instructions for unloading fans and moving units to final location for installation.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide fans of one (1) of the following:

- 1. Recirculation Fans:
 - a. Airius
 - b. Approved Equal

2.2 RECIRCULATION FANS

- A. Provide recirculation fans, designed for ceiling-mounting, of type, size and capacity as scheduled.
 - 1. Code Approved: The fan will conform to UL Standard 507 for Safety of Electric Fans.
 - 2. Type: The fan shall be designed to deliver a columnar laminar flow of air induced by the stator and nozzle design from a ceiling of designated height to floor in commercial and industrial applications. The unit's outer housing shall be constructed of polycarbonate/ABS blend, rated 5VA for flame resistance. The motor shall be enclosed by the housing, mounted under a grille-guard and positioned above a stator. The fan blades will be manufactured of steel and welded to a steel hub or manufactured of PBT-4115 and molded in one piece with the hub.
 - 3. Motor: Provide permanent split-capacitor motor, permanently lubricated with sealed ball bearings, with grounded cord and plug.
 - 4. Electrical: Provide a receptacle for motor plug-in.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions under which fans and accessories are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION OF FANS AND ENERGY RECOVERY VENTILATORS

- A. General: Install fans where indicated, in accordance with equipment manufacturer's published installation instructions and with recognized industry practices, to ensure that units comply with requirements and serve intended purposes.
- B. Coordination: Coordinate with other work, including ductwork, floor construction, roof decking and piping, as necessary to interface installation of fans with other work.
- C. Access: Provide access space around fans for service as indicated, but in no case less than that recommended by manufacturer.
- D. Mounting: Mount fans in accordance with drawing details.
- E. Electrical Wiring: Install electrical devices furnished by manufacturer but not specified to be factory-mounted. Furnish copy of manufacturer's wiring diagram submittal to Electrical Installer.
 - 1. Verify that electrical wiring installation is in accordance with manufacturer's submittal and installation requirements of Division 16 Sections. Do not proceed with equipment start-up until wiring installation is acceptable to equipment installer.

3.3 FIELD QUALITY CONTROL

- A. Testing: Upon completion of installation of fans, start-up and operate equipment to demonstrate capability and compliance with requirements. Field correct malfunctioning units, then retest to demonstrate compliance.

END OF SECTION